

Life Cycle Assessment

Samsung is conducting various activities to review and improve the environmental impact of products. This document is a summary of the results of LCA conducted as part of these activities, which evaluates the potential environmental impact throughout the product's life cycle.

☐ Scope Definition

Introduction

The LCA was performed for the life cycle of the below model in reference to ISO standards, relevant standards and PCRs. (Reference flow: 1EA)

Target Model	SM-A566BZKAEUB	Lifespan (yr)	3.0
Plant Country	Vietnam	Sales Country	Romania
Standards referred	ISO 14040/44, ISO14067, ISO14064, PAS2050, GHG Protocol, Korean EPD Guide and PCRs(Product Category Rules)		
LCIA methodology	CML v4.8 (Climate Change:IPCC)		
Database used	Ecoinvent 3.10		

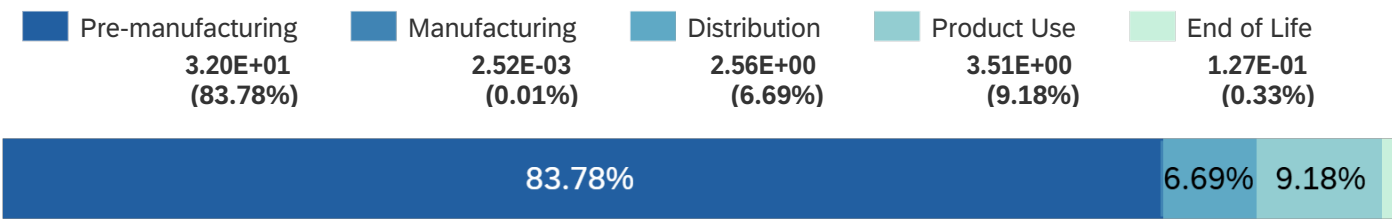
System Boundary

The system boundary includes all stages of the life cycle from pre-manufacturing, Product manufacturing, Distribution, Use and to End-of-Life stages.

☐ LCA result

Product Carbon Footprint 38.250047 kg CO2-eq

* Contribution results for Climate Change by life cycle stage



* Executed date of LCA : 2025.03.07

Contribution results for all impact categories by life cycle stage

(Unit : %)

	Total	Unit	Pre-manufacturing	Manufacturing	Distribution	Product Use	End of Life
acidification	1.73E-01	kg SO2-eq	81.01	+0.00	4.62	14.32	0.05
climate change	3.83E+01	kg CO2-eq	83.78	0.01	6.69	9.18	0.33
ecotoxicity: freshwater	5.32E+01	kg 1,4-DCB-eq	82.43	0.01	0.43	12.21	4.92
ecotoxicity: marine	1.45E+05	kg 1,4-DCB-eq	90.39	0.01	0.50	8.56	0.53
ecotoxicity: terrestrial	8.39E-01	kg 1,4-DCB-eq	92.57	0.04	1.70	5.39	0.31
energy resources: non-renewable	4.22E+02	MJ	82.52	+0.00	8.02	9.39	0.06
eutrophication	2.07E-01	kg PO4-eq	88.13	+0.00	0.85	10.85	0.16
human toxicity	1.17E+02	kg 1,4-DCB-eq	89.28	0.04	1.61	8.38	0.69
material resources: metals/minerals	2.06E-03	kg Sb-eq	97.99	+0.00	0.03	1.97	+0.00
ozone depletion	7.24E-06	kg CFC-11-eq	99.26	+0.00	0.43	0.30	0.01
photochemical oxidant formation	9.85E-03	kg ethylene-eq	82.33	0.01	5.93	11.61	0.12

☐ Endnotes

- LCA(or PCF) conducted by Samsung Electronics 'SDP-LCA Module' is verified for conformity by LRQA (Lloyd's Register Quality Assurance) according to the following international standards:
 - ISO 14040:2006 Environmental management - Life cycle assessment - Principles and framework
 - ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines
 - ISO 14067:2018 Greenhouse gases - Carbon footprint of products - Requirements and guidelines for quantification

This verification of conformity includes implementation methods, related procedures and requirements for LCA(or PCF), but does not ensure the reliability of the data used for the product model or the resulting outcomes.

- LCA : Life Cycle Assessment / PCF : Product Carbon Footprint